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REPORT

50X1-HUM

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COUNTRY

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SUBJECT : Attempts to Establish the Chemical Composition of Snake Venoms

50X1-HUM NO. OF ENCLS. (LISTED BELOW)

PLACE ACQUIRED :

SUPPLEMENT TO REPORT NO.

DATE ACQUIRED

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THIS IS UNEVALUATED INFORMATION

1. a problem which included an attempt to establish the chemical composition of snake venoms, and to establish the identity of the several poisons contained in snake venoms. 50X1-HUM

2. The snakes which were available were: 50X1-HUM

a. Two Naia naia (Purchased from Firma Mueller, Brunnenstrasse 99, Berlin (West), which imports reptiles.)

b. One Agkistrodon piscivorus (From Mueller)

c. Two Agkistrodon contortrix (From Mueller) 50X1-HUM

d. Two Vipera lebetina palaestinae (From Mueller)

e. Vipera amodytes montandoni : from the snake section of VEB Asid-Dessau. Dr. ZIMMERMANN, a personal friend. 50X1-HUM in exchange for photographic film which was difficult for him to obtain.

f. Vipera berus : caught 30 of these in the Rostock area where 50X1-HUM they are quite common. 50X1-HUM

3. The first part of work consisted of the collection of venom. Venom was collected from each snake once every ten days. The average quantity of liquid venom obtained from each type of snake was as follows: Naia naia, 125 milligrams; Agkistrodon piscivorus, 65 milligrams; Agkistrodon contortrix, 50 milligrams; Vipera lebetina palaestinae, 55 milligrams; Vipera amodytes montandoni, 30 milligrams; and Vipera berus, 20 milligrams. The liquid venom was then lyophilized using phosphorus pentoxide

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as a desiccant. Approximately one-third of the venom weight was obtained in dried form. This dried material was yellow in color and was stable indefinitely. it is a desiccator with blau gel as a drying agent. Blau gel consists of anhydrous silica whose surface has been coated with an indicator which is blue when the silica is dry, and pink when it is wet. the indicator is an organic dyestuff, but it could be a cobalt compound.

4. In addition to the venom collected, received a gift of six grams of dried venom of Bothrops jararoca from Dr. K. SLOTTA from Instituto Butantan, Sao Paulo, Brazil.

5. properties of the bothrops venom--the toxicity and the coagulation power, and one property, the toxicity of each of the other toxins. Measurement of these values was carried out according to the procedures described by Dr. SLOTTA and W. FORSTER, and SLOTTA and FRAENKEL-CONRAT The measurement of toxicity utilizes a mouse as the test animal; measurement of coagulation power employs horse blood as test material.

6. One experiment performed was the separation of the constituents of bothrops venom by means of electrophoresis. To do this, a one per cent solution of the dry venom in distilled water, and spread this, by means of a capillary pipet, onto hard filter paper (Firma Chemnitz DHZ; . The filter paper strip was five centimeters wide and about 40 centimeters long. The solution was added at a line 15 centimeters from the end of the paper, and then allowed to dry. The paper was then moistened with veronal buffer at pH 8.4 and placed in an electrophoresis apparatus which manufactured in my laboratory The apparatus was subjected to a potential of 600 volts. After a period of six hours the filter paper was removed and dried. The fractions were developed with ninhydrin which yielded nine separate zones, three of which showed yellow fluorescence in quartz light. (Professor NEUMANN, Wuerzburg, has carried out similar experiments on snake venoms. He claims, incidentally, that the physiological activity of the re-combined fractions of snake venom differs from that of the raw toxin.)

7. did not study the physiological activity of any of these nine fractions, nor publish any findings because they were incomplete. wished to achieve some positive results first and then approach Dr. SLOTTA with the request that accepted as an assistant in his laboratory in Sao Paulo. maintained contact with Dr. SLOTTA during this period.)

8. No financial assistance was given by any organization of the government of the Soviet Zone of Germany. The Chemical Institute of the University of Rostock encouraged in this research project because it lent prestige to their establishment.

[redacted] 50X1-HUM

9. [redacted] six snakes [redacted] West Berlin. Upon arri- 50X1-HUM
val in Western Germany, [redacted] one Vipera amodytes palaestinae 50X1-HUM
and one Vipera berus to be cared for at a Museum. 50X1-HUM
Two other Vipera amodytes palaestinae died. [redacted] one Naia
naia and one Agkistrodon piscivorus in Berlin. [redacted]
the remaining snakes of my collection outside the city of Ros- 50X1-HUM
tock. [redacted] only the bothrops toxin with me and left the other
toxins behind. 50X1-HUM 50X1-HUM

10. All the work [redacted] carried out was done in [redacted]
laboratory in the basement of the Chemical Institute of Rostock
University. [redacted] subordinate to Oberassistent Dr. Herald 50X1-HUM
BRAEUNIGER, and Direktor of the Chemistry Institute,
Dr. Guenther RIENAECKER, in my snake venom experiments, [redacted] 50X1-HUM
received no technical assistance from them.